IN THE CLAIMS:

1. (Original) A method of manufacturing a welding filler metal, comprising the steps of

casting a nickel-base alloy as an extrusion rod having a diameter of from about 0.2 inch to about 0.5 inch, the extrusion rod having at least about 12 grains in the cross section of the extrusion rod; and

extruding the extrusion rod in a single extrusion operation to a filler-metal diameter of less than about 0.1 inch and using an areal extrusion ratio of at least about 9:1 to form the welding filler metal.

2. (Original) The method of claim 1, wherein the step of casting the nickel-base alloy includes the step of

casting a nickel-base superalloy.

3. (Original) The method of claim 1, wherein the step of casting includes the step of

casting a nickel-base alloy having a composition selected from the group consisting of Rene' 195, which has a nominal composition in weight percent of about 7.4-7.8 percent chromium, about 5.3-5.6 percent tantalum, about 2.9-3.3 percent cobalt, about 7.6-8.0 percent aluminum, about 0.12-0.18 percent hafnium, about 0.5-0.6 percent silicon, about 3.7-4.0 percent tungsten, about 1.5-1.8 percent rhenium, about 0.01-0.03 percent carbon, about 0.01-0.02 percent boron, remainder nickel and incidental impurities; Rene' N5, which has a nominal composition in weight percent of about 7.5 percent cobalt, about 7 percent chromium, about 6.2 percent aluminum, about 6.5 percent tantalum, about 5 percent tungsten, about 1.5 percent molybdenum, about 3 percent rhenium, about 0.05 percent carbon, about 0.004 percent boron, about 0.15 percent hafnium, up to about 0.01 percent yttrium, balance nickel and incidental impurities; Rene' N6, which has a nominal composition in weight percent of about 12.5 percent cobalt, about 4.2 percent chromium, about 1.4 percent molybdenum, about 5.75 percent tungsten, about 5.4 percent rhenium,

about 7.2 percent tantalum, about 5.75 percent aluminum, about 0.15 percent hafnium, about 0.05 percent carbon, about 0.004 percent boron, about 0.01 percent yttrium, balance nickel and incidental impurities; Rene 142, which has a nominal composition, in weight percent, of about 12 percent cobalt, about 6.8 percent chromium, about 1.5 percent molybdenum, about 4.9 percent tungsten, about 6.4 percent tantalum, about 6.2 percent aluminum, about 2.8 percent rhenium, about 1.5 percent hafnium, about 0.1 percent carbon, about 0.015 percent boron, balance nickel and incidental impurities; PWA1480, which has a nominal composition in weight percent of about 5.00 percent cobalt, about 10.0 percent chromium, about 4.00 percent tungsten, about 12.0 percent tantalum, about 5.00 percent aluminum, about 1.5 percent titanium, balance nickel and incidental impurities; and PWA1484, which has a nominal composition in weight percent of about 10.00 percent cobalt, about 5.00 percent chromium, about 2.00 percent molybdenum, about 6.00 percent tungsten, about 3.00 percent rhenium, about 8.70 percent tantalum, about 5.60 percent aluminum, about 0.10 percent hafnium, balance nickel and incidental impurities.

4. (Original) The method of claim 1, wherein the step of casting includes

casting the nickel base alloy to an extrusion-rod diameter of about 1/4 inch, and wherein the step of extruding includes the step of

extruding the extrusion rod to a filler-metal diameter of from about 0.05 to about 0.06 inch.

5. (Original) The method of claim 1, wherein the step of extruding includes the step of

extruding the extrusion rod to a filler-metal diameter of from about 0.05 to about 0.06 inch.

6. (Currently amended) ~~The method of claim 1~~ A method of manufacturing a welding filler metal, comprising the steps of

casting a nickel-base alloy as an extrusion rod having a diameter of from about 0.2 inch to about 0.5 inch, the extrusion rod having at least about 12 grains in the cross section of the extrusion rod, wherein the step of casting the nickel-base alloy includes the step of

casting the nickel-base alloy with a superheat of no more than about 50°F; and

extruding the extrusion rod in a single extrusion operation to a filler-metal diameter of less than about 0.1 inch and using an areal extrusion ratio of at least about 9:1 to form the welding filler metal.

7. (Currently amended) ~~The method of claim 1~~ A method of manufacturing a welding filler metal, comprising the steps of

casting a nickel-base alloy as an extrusion rod having a diameter of from about 0.2 inch to about 0.5 inch, the extrusion rod having at least about 12 grains in the cross section of the extrusion rod, wherein the step of casting the nickel-base alloy includes the step of investment casting the nickel-base alloy into a mold having a grain refiner adherent to an inner surface of a wall of the mold; and

extruding the extrusion rod in a single extrusion operation to a filler-metal diameter of less than about 0.1 inch and using an areal extrusion ratio of at least about 9:1 to form the welding filler metal.

8. (Original) The method of claim 1, wherein the step of extruding includes the step of

extruding the extrusion rod with an areal extrusion ratio of from about 9:1 to about 25:1.

9. (Original) A method of manufacturing a welding filler metal, comprising the steps of

casting a nickel-base alloy as an extrusion rod of about 1/4 inch diameter, the extrusion rod having at least about 12 grains in the 1/4 inch diameter cross section of the extrusion rod; and

extruding the extrusion rod in a single extrusion operation to a filler-metal diameter of from about 0.05 to about 0.06 inch.

10. (Original) The method of claim 9, wherein the step of casting the nickel-base alloy includes the step of

casting a nickel-base superalloy.

11. (Original) The method of claim 9, wherein the step of casting includes the step of

casting a nickel-base alloy having a composition selected from the group consisting of Rene' 195, which has a nominal composition in weight percent of about 7.4-7.8 percent chromium, about 5.3-5.6 percent tantalum, about 2.9-3.3 percent cobalt, about 7.6-8.0 percent aluminum, about 0.12-0.18 percent hafnium, about 0.5-0.6 percent silicon, about 3.7-4.0 percent tungsten, about 1.5-1.8 percent rhenium, about 0.01-0.03 percent carbon, about 0.01-0.02 percent boron, remainder nickel and incidental impurities; Rene' N5, which has a nominal composition in weight percent of about 7.5 percent cobalt, about 7 percent chromium, about 6.2 percent aluminum, about 6.5 percent tantalum, about 5 percent tungsten, about 1.5 percent molybdenum, about 3 percent rhenium, about 0.05 percent carbon, about 0.004 percent boron, about 0.15 percent hafnium, up to about 0.01 percent yttrium, balance nickel and incidental impurities; Rene' N6, which has a nominal composition in weight percent of about 12.5 percent cobalt, about 4.2 percent chromium, about 1.4 percent molybdenum, about 5.75 percent tungsten, about 5.4 percent rhenium, about 7.2 percent tantalum, about 5.75 percent aluminum, about 0.15 percent hafnium, about 0.05 percent carbon, about 0.004 percent boron, about 0.01 percent yttrium, balance nickel and incidental impurities; Rene 142, which has a nominal composition, in weight percent, of about 12 percent cobalt, about 6.8 percent chromium, about 1.5 percent molybdenum, about 4.9 percent tungsten, about 6.4 percent tantalum, about 6.2 percent aluminum, about 2.8 percent rhenium, about 1.5 percent hafnium, about 0.1 percent carbon, about 0.015 percent boron, balance nickel and incidental impurities; PWA1480, which has a nominal composition in weight percent of about 5.00 percent cobalt, about 10.0 percent chromium, about 4.00 percent tungsten, about 12.0 percent tantalum, about 5.00 percent aluminum, about 1.5 percent titanium, balance nickel and incidental impurities; and PWA1484, which has a nominal composition in weight percent of about 10.00 percent cobalt, about 5.00 percent chromium, about 2.00 percent molybdenum, about 6.00 percent tungsten, about 3.00 percent rhenium, about 8.70 percent tantalum, about 5.60 percent

aluminum, about 0.10 percent hafnium, balance nickel and incidental impurities.

12. (Currently amended) ~~The method of claim 9~~ A method of manufacturing a welding filler metal, comprising the steps of

casting a nickel-base alloy as an extrusion rod of about 1/4 inch diameter, the extrusion rod having at least about 12 grains in the 1/4 inch diameter cross section of the extrusion rod, wherein the step of casting the nickel-base alloy includes the step of casting the nickel-base alloy with a superheat of no more than about 50°F; and

extruding the extrusion rod in a single extrusion operation to a filler-metal diameter of from about 0.05 to about 0.06 inch.

13. (Currently amended) ~~The method of claim 9~~ A method of manufacturing a welding filler metal, comprising the steps of

casting a nickel-base alloy as an extrusion rod of about 1/4 inch diameter, the extrusion rod having at least about 12 grains in the 1/4 inch diameter cross section of the extrusion rod, wherein the step of casting the nickel-base alloy includes the step of

investment casting the nickel-base alloy into a mold having a grain refiner adherent to an inner surface of a wall of the mold; and

extruding the extrusion rod in a single extrusion operation to a filler-metal diameter of from about 0.05 to about 0.06 inch.